

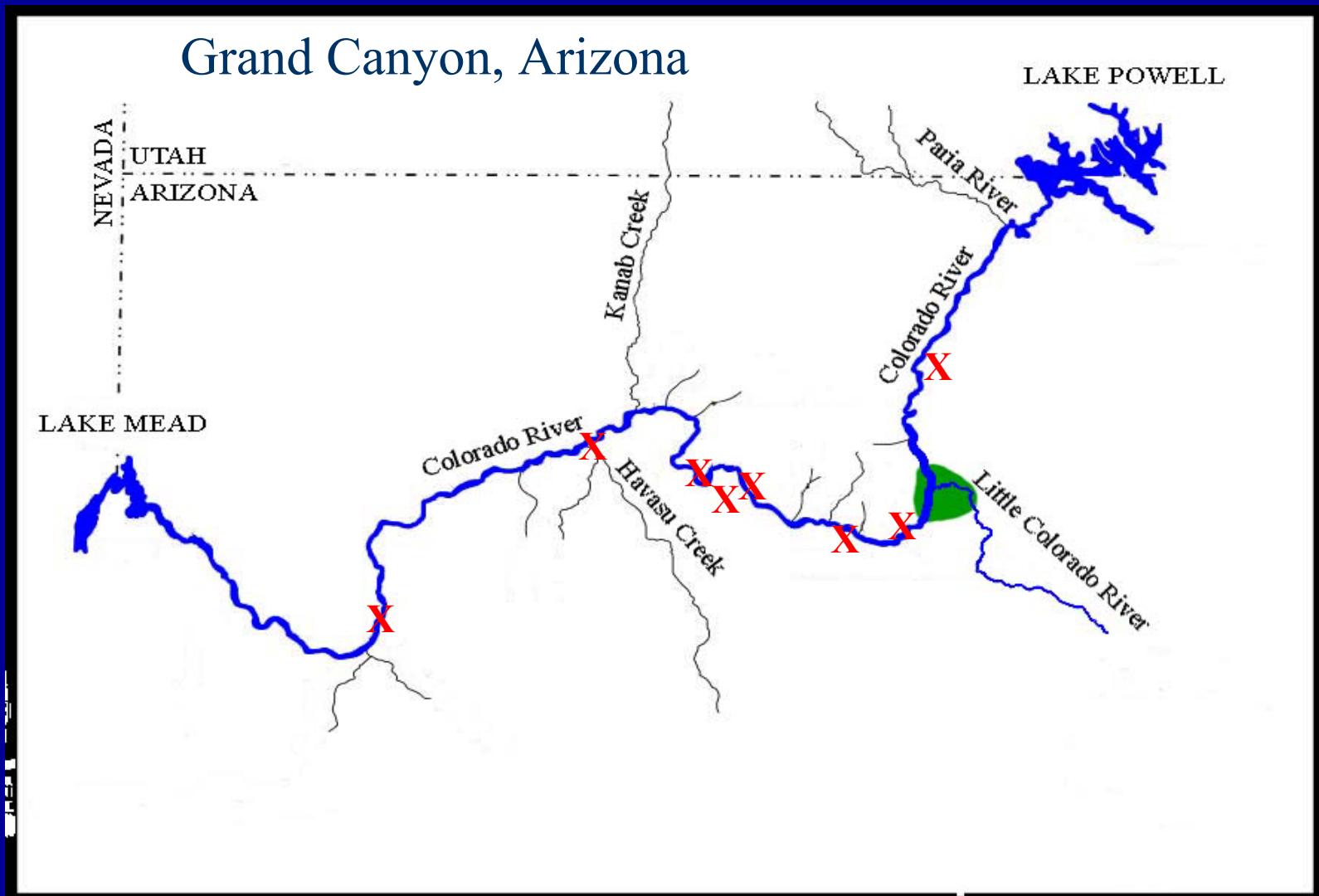
Current Status of Humpback Chub, *Gila cypha*, in Grand Canyon

Table 1. Grand Canyon locations and numbers of humpback chub by river mile from Lees Ferry (adapted from Valdez and Ryel, 1995).

River mile Estimate	YOY	Juvenile	Adult	Total	Pop.
80	14	0	26	26	52
57-65	1830	1293	1524	4647	2682-4281
65-76	778	226	15	1019	ne*
83-92	13	2	9	24	ne
108	4	13	27	44	57
114-120	0	7	17	24	ne
126-129	1	4	124	129	98
155-156	0	0	7	7	13
212-213	0	0	6	6	5

*no estimate available due to low numbers of recapture

HBC Research in Grand Canyon



HBC Abundance Estimation Grand Canyon

Year	Month	Location	Size	Estimate	Source
1982	May	LCR	>200 mm	7500	Kaeding & Zimmerman (1982)
1987	May	LCR Confluence	>120 mm	5783	Minckley (1988)
1987	May	LCR Confluence	>140 mm	1800	Kubly (1990)
1988	May	LCR Confluence	>120 mm	7060	Minckley (1988)
1988	May	LCR Confluence	>140 mm	2900	Kubly (1990)
1989	May	LCR	>150 mm	18253	Minckley (1989)
1989	May	LCR Confluence	>150 mm	10120	Minckley (1989)
1989	May	LCR	>140 mm	25000	Kubly (1990)
1990	May	LCR Confluence	>150 mm	6492	Minckley (1990)
1990	May	LCR	>150 mm	11985	Minckley (1990)
1992	May	LCR Confluence	>150 mm	1320	Douglas and Marsh (1996)
1992	May	LCR	>150 mm	4508	Douglas and Marsh (1996)
2000	Oct.	LCR	>135 mm	1600	Coggins and Van Haverbeke (2001)
2001	May	LCR	>150 mm	2082	USFWS (2002).

HBC Abundance Estimation Grand Canyon

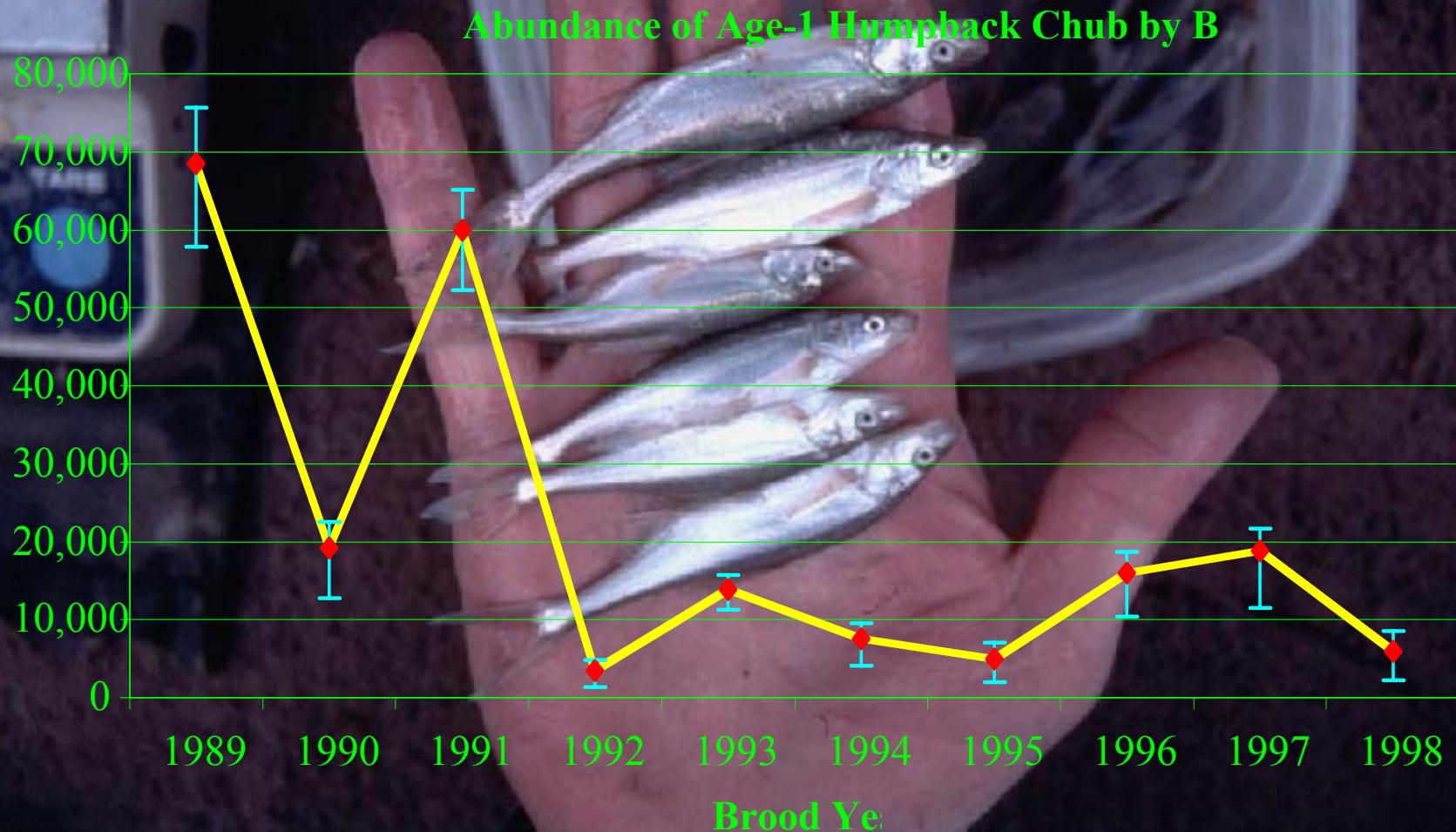
Year	Month	Location	Size	Estimate	Source
1991-93	All	LCRI Aggregation	>200 mm	3000-4000	Valdez and Ryel (1995); Closed Population Model
1991-93	All	LCRI Aggregation	>200 mm	3200	Valdez and Ryel (1995); Open Population Model
1993	?	MGG Aggregation	>200 mm	91 (68-155)	Valdez and Ryel (1995); Closed Population Model
2000	Aug-Dec	MMG Aggregation	>200 mm	183 (108-390)	Trammel et al. (2002) Closed Population Model
1991-93	All	30-Mile Aggregation	>200 mm	55	Valdez and Ryel (1995); Closed Population Model
1991-93	All	Shinumo Inflow Aggregation	>200 mm	55	Valdez and Ryel (1995); Closed Population Model
1991-93	All	Havasu Inflow Aggregation	>200 mm	10	Valdez and Ryel (1995); Closed Population Model
1991-93	All	Pumpkin Spring Aggregation	>200 mm	5	Valdez and Ryel (1995); Closed Population Model

Recent Abundance Trends in the Little Colorado River Population of Humpback Chub

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Recent Recruitment Trends in the Little Colorado River Population of Humpback Chub

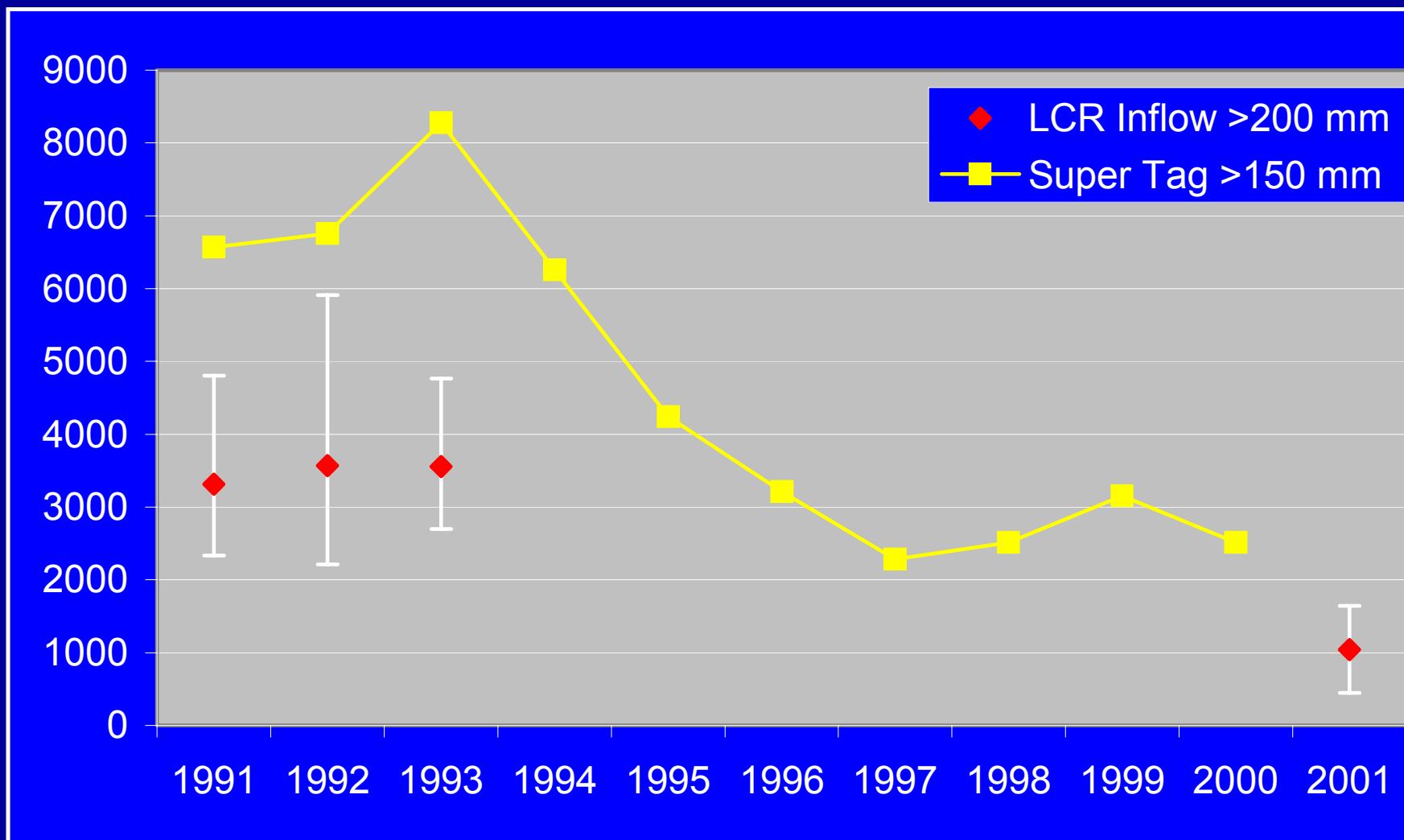


Recent Recruitment Trends in the Little Colorado River Population of Humpback Chub

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Little Colorado River Inflow Abundance Estimates (BW and SWCA) versus Supertag Estimates



The Future Grand Canyon Fish Community?

